

Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 1 and replaces the original sheet with Fig. 1.

Attachment: Replacement Sheet

REMARKS

Claims 1, 5-11 and 13-24 are pending in this application. By this Amendment, Fig. 1 and claims 1, 5-11 and 13-17 are amended for clarity and to recite additional features. See, Fig. 5, for example. Claims 3, 4 and 12 are canceled without prejudice or disclaimer and new claims 18-24 are added. Support for new claim 18 can be found at least at claim 9, paragraph [0025] in the specification, and Fig. 5. Support for new claim 19 can be found at least at claim 10. Support for new claim 20 can be found at least at claim 1, paragraph [0025] in the specification and Fig. 5. Support for new claims 21-24 can be found at least at claims 5 to 8, respectively. No new matter is added.

The Office Action objects to Fig. 1. Fig. 1 is amended to obviate the objection. Accordingly, Applicants respectfully request withdrawal of the objection to Fig. 1.

The Office Action rejects claims 1, 3, 5-10, and 13-17 under 35 U.S.C. §102(e) as being anticipated by Heeger (U.S. Patent No. 6,828,583). The Office Action rejects claims 4 and 11 under 35 U.S.C. §103(a) as being unpatentable over Heeger in view of Applicant Admitted Prior Art (AAPA) or Hepp (Light-Emitting Field-Effect Transistor based on Tetracene Thin Film, Physical Review Letters, volume 91, number 15, page 157406-1 to 157406-4, October 10, 2003.). The Office Action rejects claim 12 under 35 U.S.C. §103(a) as being unpatentable over Heeger in view of Patton (U.S. Patent No. 6,845,114). The rejection of canceled claims 3, 4 and 12 are moot. Applicants respectfully traverse the rejections of the remaining claims. Applicants also respectfully traverse the rejection of new claims 18-24, if these rejections were applied to new claims 18-24.

With regard to independent claims 1, 9, 18 and 20, Heeger, AAPA, Hepp and Patton, either alone or in any combination, do not disclose or suggest at least a) a second source/drain electrode including an adhesive base layer made of an electron-injecting material and entirely covered with a hole-injecting material, as recited in independent claim 1, and similarly recited in

independent claim 9; and b) a first source/drain electrode including an adhesive base layer made of a hole-injecting material and entirely covered with an electron-injecting material, as recited in independent claim 18, and similarly recited in independent claim 20.

In contrast, Heeger merely disclose that an electrode is formed by evaporating Au electrodes onto Cr adhesion layer pre-deposited on a glass substrates. In other words, Heeger merely discloses that the material typically used as a hole-injecting material is stacked onto the material typically used as an electron injecting. See column 10, lines 8-10 and Fig. 1.

Therefore, Heeger does not disclose or suggest a) a second source/drain electrode including an adhesive base layer made of an electron-injecting material and entirely covered with a hole-injecting material; and b) a first source/drain electrode including an adhesive base layer made of a hole-injecting material and entirely covered with an electron-injecting material.

Similarly, AAPA merely discloses that both of a first source/drain electrode and second source/drain electrode made of gold are stacked onto an adhesive layers made of chromium, respectively. See paragraph [0005] in the specification and Fig. 1. Therefore, AAPA does not disclose or suggest a) a second source/drain electrode including an adhesive base layer made of an electron-injecting material and entirely covered with a hole-injecting material; and b) a first source/drain electrode including an adhesive base layer made of a hole-injecting material and entirely covered with an electron-injecting material.

Similarly, Hepp and Patton do not make up for the above-mentioned deficiencies of Heeger and AAPA. In particularly, Hepp and Patton are silent with regard to a) a second source/drain electrode including an adhesive base layer made of an electron-injecting material and entirely covered with a hole-injecting material; and b) a first source/drain electrode including an adhesive base layer made of a hole-injecting material and entirely covered with an electron-injecting material.

Thus, Heeger, AAPA, Hepp and Patton, either alone or in any combination, do not disclose or suggest the subject matter recited in independent claims 1, 9, 18 and 20.

With regard to independent claim 11, Heege, AAPA, Hepp and Patton, either alone or in any combination, do not disclose or suggest at least a second source/drain electrode which is provided on the insulating film and arranged so that its comb-teeth engage into comb-teeth of a first source/drain electrode to form a diffraction grating consisting of two sets of comb-teeth, as recited in independent claim 11.

Heeger discloses that a light-emitting field effect transistor (LEFET) including a source and drain fabricated of the same metal or metal alloys, or used two different materials. However, the Office Action admits that Heeger does not teach comb-teeth of a second source/drain electrode engage into comb-teeth of a first source/drain electrode to form a diffraction grating consisting of a two sets of comb-teeth. Thus, Heeger does not disclose or suggest at least a second source/drain electrode which is provided on the insulating film and arranged so that its comb-teeth engage into comb-teeth of a first source/drain electrode to form a diffraction grating consisting of two sets of comb-teeth.

Hepp does not make up for the above-noted deficiencies of Heeger. Hepp discloses that an Organic light-emitting film transistor has a first and second source/drain electrodes are formed by engaging first source/drain comb-teeth into second source/drain comb-teeth. See Fig. 1. However, Hepp is silent with respect to the comb-shaped source/drain electrodes being used as a diffraction grating. Thus, Hepp does not disclose or suggest at least a second source/drain electrode which is provided on the insulating film and arranged so that its comb-teeth engage into comb-teeth of a first source/drain electrode to form a diffraction grating consisting of two sets of comb-teeth.

Similarly, AAPA and Patton do not make up for the above-noted deficiencies of Heeger. AAPA and Patton do not disclose or suggest at least a second source/drain electrode which is

provided on the insulating film and arranged so that its comb-teeth engage into comb-teeth of a first source/drain electrode to form a diffraction grating consisting of two sets of comb-teeth.

Thus, Heege, AAPA, Hepp and Patton, either alone or in any combination, do not disclose or suggest the subject matter recited in independent claim 11.

With regard to independent claim 13, Applicants assert that Heeger, Hepp and Patton, either alone or in any combination, do not disclose or suggest a second source/drain electrode provided separately from a first source/drain electrode on the insulating film and made by stacking a layer of the same electron-injecting material and a layer of the same hole-injecting material as the first source/drain electrodes in the same order as the first source/drain electrodes, as recited in independent claim 13.

Heeger discloses that a light-emitting field effect transistor (LEFET) including a source and drain fabricated with either the same metal or metal alloys or two different materials. More particularly, Heeger discloses that Au (gold) is used for hole injection into semiconducting polymers, or Al (aluminum) or low work function metals such as Ca (calcium) or Ba (barium) used for electron injection into semiconducting polymer. However, Heeger is silent with respect to the second source/drain electrode being formed by stacking a layer of the same electron-injecting material and a layer of the same hole-injecting material as the first source/drain electrode in the same order as the first source/drain. See column 8, line 65 to column 9, line 6.

Similarly, AAPA, Hepp and Patton do not disclose or suggest the second source/drain electrode being formed by stacking a layer of the same electron-injecting material and a layer of the same hole-injecting material as the first source/drain electrode in the same order as the first source/drain.

Thus, Heeger, AAPA, Hepp and Patton, either alone or in any combination, do not disclose or suggest that a second source/drain electrode is provided separately from a first

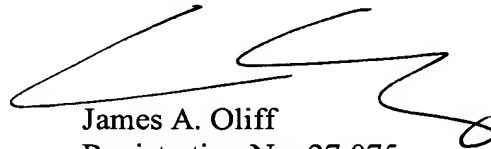
source/drain electrode on the insulating film and made by stacking a layer of the same electron-injecting material and a layer of the same hole-injecting material as the first source/drain electrodes in the same order as the first source/drain electrodes, as recited in independent claim 13.

In view of the above, independent claims 1, 9, 11, 13, 18 and 20 define patentable subject matter. Claims 5-8, 10, 14-17, 19 and 21-24 depend from independent claims 1, 9, 11, 13, 18 and 20, respectively, and therefore also define patentable subject matter. Accordingly, Applicants respectfully request that the rejection of claims 1, 5-11 and 13-17 under 35 U.S.C. §102(e) and §103(a) be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 5-11 and 13-24 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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